

A OVERVIEW

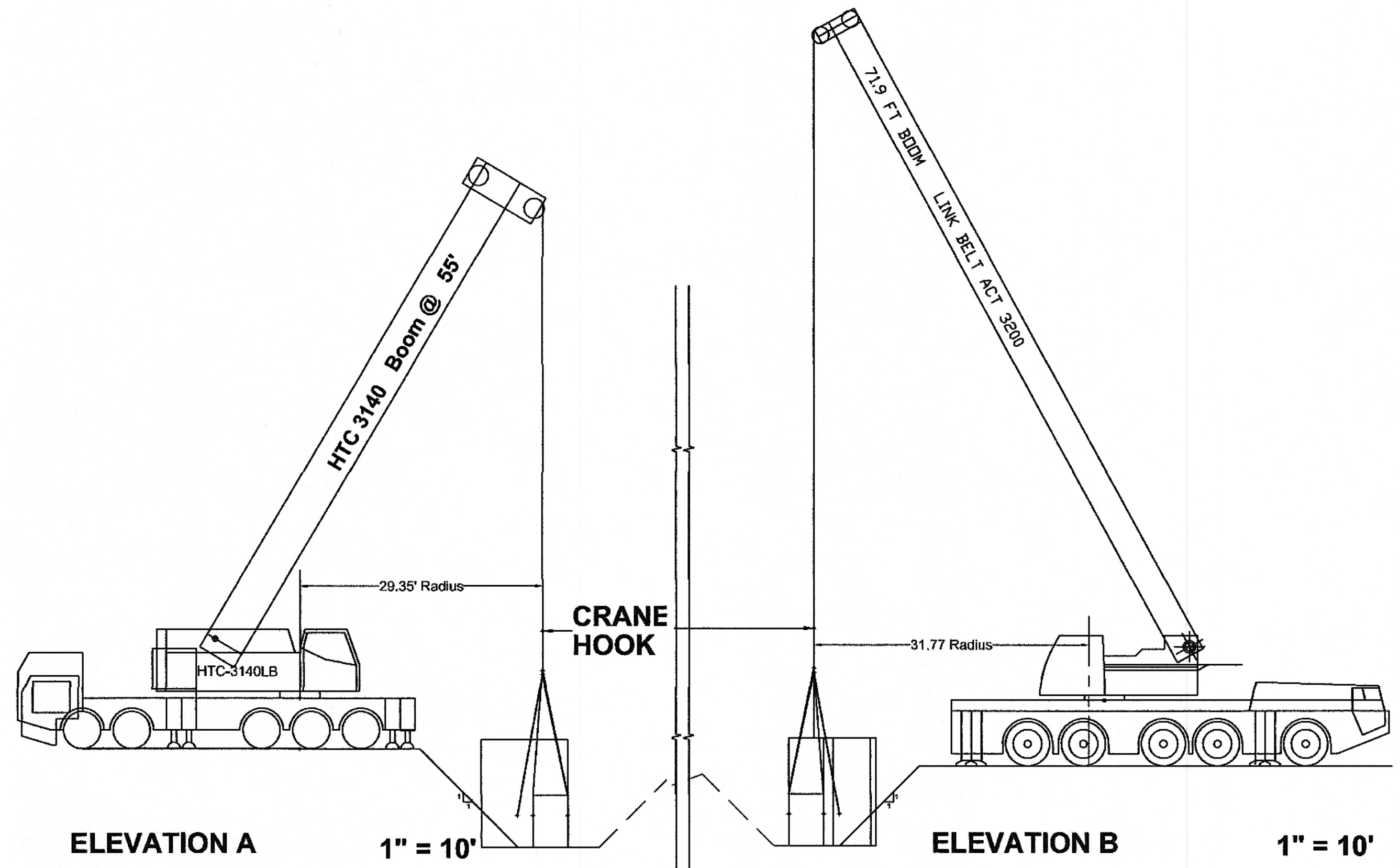
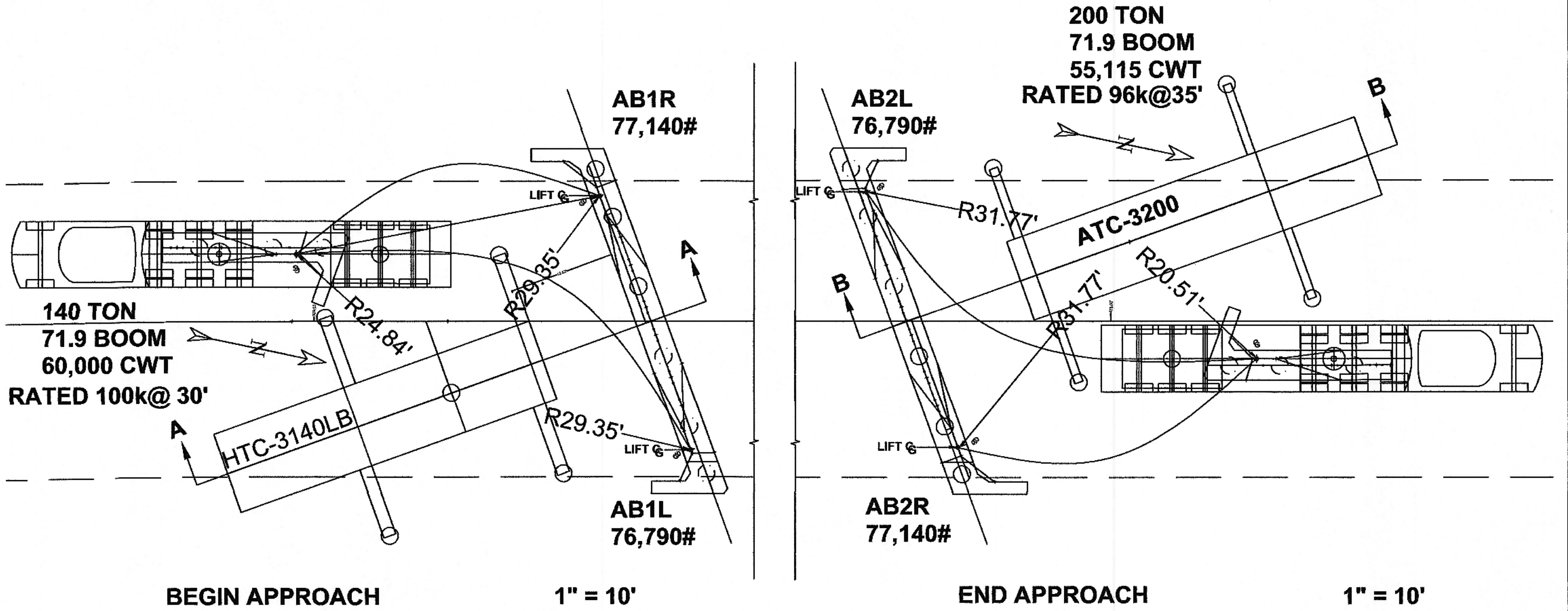
- THIS PLAN DEPICTS ERECTION OF PREFABRICATED BRIDGE ABUTMENTS (PBA) FOR BRIDGE # 166 FOR WARREN BRF 013-4(32).
- 2 CRANES WILL BE USED FOR THE ERECTION. A HTC 3140 LINK-BELT 140 TON HYDRAULIC CRANE WITH 60,000 # COUNTERWEIGHT AND BOOM LENGTH SET AT 55 FT. WILL BE SET-UP ON THE SOUTH APPROACH AT STATIONING AND ELEVATION SHOWN ON THE PLAN. AN ACT 3200 LINK -BELT 200 TON CRANE WITH 55,115 # COUNTERWEIGHT AND BOOM LENGTH SET AT 71.9 FT. WILL BE SET UP ON THE NORTH APPROACH AT STATIONING AND ELEVATION DEPICTED ON THE PLAN. PBAs WILL BE BACKED TO THE CRANES FOR RIGGING AND UNLOADING.
- RIGGING FOR ALL PBAs WILL BE THE SAME FOR BOTH CRANES. RIGGING CONSISTING OF PATTERSON LIFTING DEVICES, TUFLEX ENDLESS SLINGS OF VARYING LENGTHS CONNECTED WITH 21 TON SCREW PIN SHACKLES PROVIDED BY SD IRELAND AND DETAILED IN SDI PBA SHOP DRAWINGS. THESE WILL BE GATHERED AND CONNECTED DIRECTLY TO THE CRANE MAIN BLOCK.

B LIFT NOTES:

- ALL WORK WILL BE DONE IN ACCORDANCE WITH OSHA REGULATIONS
- ALL PERSONNEL WILL WEAR APPROPRIATE PROTECTION EQUIPMENT.
- BEFORE HOISTING OPERATIONS, ONE PERSON SHALL BE APPOINTED "GROUND DIRECTOR" (GD) AND ONLY HE SHALL BE RESPONSIBLE FOR OVERALL DIRECTION AND COMMUNICATION WITH THE CRANE OPERATORS. ALL EMPLOYEES SHALL BE MADE AWARE THAT THIS PERSON IS DON DROLLETTE OF LUCK BROS..
- THE GROUND DIRECTOR (GD) WILL HOLD SAFETY MEETINGS AT EVERY POINT OF A NEW ITEM OF WORK DURING THE ERECTION PROCEDURE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE WEIGHT OF EACH LIFT AND FOR INSURING THE STABILITY OF EACH MEMBER DURING ALL PHASES OF ERECTION, INCLUDING LIFTING AND RELEASE OF EACH UNIT.
- THE TABLE OF CHART PREPARED BY THE CRANE MANUFACTURER TO DESCRIBE THE MAXIMUM LIFT AT ALL CONDITIONS OF LOADING SHALL BE POSTED IN EACH CRANE CAB IN CLEAR VIEW OF THE OPERATOR.
- NO CRANE SHALL BE OPERATED IN A MANNER THAT WILL EXCEED ITS RATED CAPACITY AT A RADIUS AS SHOWN BY THE MANUFACTURER. BOTH CRANES USED FOR THIS ERECTION HAVE OPERATIONAL SAFETY DEVICES INCLUDING A: "LOAD AND RADIUS MEASURING DEVICES PRE-PROGRAMMED TO CONTINUOUSLY RELATE THE MEASURED DATA TO THE LOAD RADIUS CHART AS A DIRECT READING OF LOAD OR PERCENTAGE OF THE RATED LOAD, AND CONNECTED TO A WARNING LIGHT AND AN ACOUSTICAL SIGNAL LOCATED AT THE OPERATOR'S POSITION OR IN THE CAB TO INDICATE OVERLOAD". AND B: DEVICES "THAT CONTINUOUSLY INDICATE THE LEVELNESS OF THE MACHINE AND IS VISIBLE FROM THE OPERATOR'S CONTROLS."

C ERECTION SEQUENCE

- ABUTMENT 1 UNITS WILL BE SET CONCURRENTLY WITH ABUTMENT 2 UNITS. FOR ABUTMENT 1, THE FIRST PBA TO SET WILL BE AB1L. UNIT WILL BE RIGGED AND CRANE WILL ASSUME LOAD. RESTRAINTS WILL BE REMOVED, UNIT WILL BE HOISTED JUST CLEAR OF THE DELIVERY TRAILER AND STABILIZED BEFORE PRECEDING. DELIVERY TRUCK WILL BE DISPATCHED. UNIT WILL BE SWUNG CLOCKWISE TO ABOVE ITS INTENDED LOCATION. UNIT WILL BE LOWERED OVER THE PREVIOUSLY DRIVEN BEARING PILES AND RESTED ON SHIMS SET AT BOTTOM OF ABUTMENT ELEVATION AND ALLOWING A MINIMUM OF 1/2" GROUT INFILL BENEATH.
- THE SECOND PBA TO SET FOR ABUTMENT 1 WILL BE AB1R. PRIOR TO SETTING THIS UNIT, BOTH MATCH CAST ENDS OF ABUTMENT 1 WILL BE COATED WITH AN EPOXY BONDING COMPOUND. UNIT WILL BE RIGGED AND CRANE WILL ASSUME LOAD. RESTRAINTS WILL BE REMOVED, UNIT WILL BE HOISTED JUST CLEAR OF THE DELIVERY TRAILER AND STABILIZED BEFORE PRECEDING. DELIVERY TRUCK WILL BE DISPATCHED. UNIT WILL BE SWUNG CLOCKWISE TO ABOVE ITS INTENDED LOCATION. UNIT WILL BE LOWERED OVER THE PREVIOUSLY DRIVEN BEARING PILES AND RESTED ON SHIMS SET AT BOTTOM OF ABUTMENT ELEVATION AND ALLOWING A MINIMUM OF 1/2" GROUT INFILL BENEATH.
- FOR ABUTMENT 2, THE FIRST PBA TO SET WILL BE AB2L. UNIT WILL BE RIGGED AND CRANE WILL ASSUME LOAD. RESTRAINTS WILL BE REMOVED, UNIT WILL BE HOISTED JUST CLEAR OF THE DELIVERY TRAILER AND STABILIZED BEFORE PRECEDING. DELIVERY TRUCK WILL BE DISPATCHED. UNIT WILL BE SWUNG CLOCKWISE TO ABOVE ITS INTENDED LOCATION. UNIT WILL BE LOWERED OVER THE PREVIOUSLY DRIVEN BEARING PILES AND RESTED ON SHIMS SET AT BOTTOM OF ABUTMENT ELEVATION AND ALLOWING A MINIMUM OF 1/2" GROUT INFILL BENEATH.
- THE LAST PBA TO SET WILL BE AB1R. PRIOR TO SETTING THIS UNIT, BOTH MATCH CAST ENDS OF ABUTMENT 2 WILL BE COATED WITH AN EPOXY BONDING COMPOUND. UNIT WILL BE RIGGED AND CRANE WILL ASSUME LOAD. RESTRAINTS WILL BE REMOVED, UNIT WILL BE HOISTED JUST CLEAR OF THE DELIVERY TRAILER AND STABILIZED BEFORE PRECEDING. DELIVERY TRUCK WILL BE DISPATCHED. UNIT WILL BE SWUNG CLOCKWISE TO ABOVE ITS INTENDED LOCATION. UNIT WILL BE LOWERED OVER THE PREVIOUSLY DRIVEN BEARING PILES AND RESTED ON SHIMS SET AT BOTTOM OF ABUTMENT ELEVATION AND ALLOWING A MINIMUM OF 1/2" GROUT INFILL BENEATH.



PREFABRICATED ABUTMENT UNIT INFORMATION				
UNIT ID	L MAX '	W MAX '	H MAX '	WT. #
AB1L	22.23	8.71	10.79	76,790
AB1R	24.16	8.71	10.8	77,140
AB2L	22.23	8.71	10.77	76,790
AB2R	24.16	8.71	10.76	77,140

Crane Load Ratings - LINK-BELT HTC-3140LB w/ 60,000# Counterweight										
Lifting Capacities (lbs) on fully extended outriggers, 360° rotation										
Boom Radius FT	BOOM LENGTH (FEET)									
	42.3	55.0	70.0	85.0	100.0	115.0	130.0	145.0	160.0	
9.0	280,000									
10.0	264,900	157,100	151,700							
12.0	240,000	157,100	144,800							
15.0	204,500	157,100	137,400	110,100						
20.0	151,600	152,200	118,300	106,500	80,700	61,300				
25.0	118,800	122,200	103,700	93,500	77,100	61,300	49,400			
30.0	96,400	99,900	92,100	73,200	67,900	61,300	47,400	41,000	35,500	
35.0		83,800	82,900	74,700	65,000	61,300	45,500	41,000	35,500	
40.0		72,200	72,700	67,700	62,400	52,000	40,800	10,300	35,500	
45.0		62,600	64,600	61,900	57,000	47,500	36,800	36,800	33,000	
50.0			56,400	54,800	52,400	43,500	33,300	33,700	30,000	
55.0			48,500	49,000	48,400	40,200	30,300	31,000	27,300	
60.0			42,700	42,700	42,200	36,000	27,600	28,600	24,900	
65.0				37,500	37,100	32,000	25,400	26,400	23,100	
70.0				33,300	33,000	28,500	23,600	24,500	21,500	
75.0				29,800	29,400	25,400	22,000	22,800	20,100	
80.0					26,300	22,800	20,600	21,200	18,800	
85.0					21,400	20,500	19,800	17,700		
90.0						18,500	18,000	18,400	16,600	
95.0						17,300	16,900	17,100	15,600	
100.0							16,300	15,900	14,700	
105.0								15,000	14,900	13,800
110.0									14,100	13,800
115.0									13,400	12,500
120.0									12,800	11,900
125.0										11,300
130.0										10,700
135.0										10,100
140.0										9,300
145.0										8,600
150.0										7,900

Rated lifting capacities shown on fully extended outriggers do not exceed 85% of the tipping loads.

Crane Load Ratings - Link-Belt ATC3200 w/ 55,115 # Counterweight																
Lifting Capacities (x 1000 lbs) on fully extended outriggers, 360° rotation																
Boom Radius FT	BOOM LENGTH (FEET)															
	43.3	57.7	71.9	86.3	100.4	114.0	128.9	143.3	157.5	171.9	186.0	196.9				
10.0	306.0	364.5	255.0	196.5												
12.0	277.5	364.5	255.0	196.5	162.5											
14.0	256.5	256.0	252.5	196.5	156.0											
16.0	233.0	233.5	231.5	196.5	145.5	121.5										
18.0	208.5	208.5	207.0	192.5	136.5	119.5										
20.0	186.5	186.0	187.0	185.5	128.0	117.0	91.3	73.6								
25.0	148.0	147.5	148.5	147.0	111.0	102.0	91.3	73.6	59.3							
30.0	120.4	120.0	122.0	117.5	97.5	95.5	83.8	73.3	59.3	47.6	37.5					
35.0		93.8	96.0	91.5	85.2	88.8	75.3	68.3	68.0	47.0	37.5	30.9				
40.0		74.8	77.0	75.2	77.2	76.3	67.8	61.7	54.9	45.7	37.4	30.9				
45.0		61.2	63.2	64.1	67.1	65.7	59.7	56.5	51.2	42.9	36.3	30.9				
50.0			53.0	56.8	57.2	55.6	51.8	49.4	47.9	40.1	34.4	30.9				
55.0			47.6	49.5	48.7	47.1	44.7	42.8	42.8	37.7	32.4	30.0				
60.0			42.2	42.6	41.9	40.2	39.5	37.3	36.3	35.4	30.5	28.4				
65.0				37.1	36.4	35.0	36.1	33.1	32.9	32.3	28.9	27.1				
70.0				32.7	32.2	30.7	32.2	28.9	29.1	29.0	27.5	25.7				
75.0					28.5	28.5	27.0	28.5	26.7	26.0	25.9	25.3	24.3			
80.0						25.3	23.8	25.3	24.8	23.7	23.8	22.5	22.7			
85.0						22.4	20.9	22.4	22.8	22.3	22.1	19.8	21.0			
90.0						19.6	19.9	20.1	20.8	20.7	20.3	18.0	18.9			
95.0							19.1	17.9	18.8	18.9	18.5	16.5	16.9			
100.0							18.3	16.4	14.5	17.2	16.6	15.0	15.2			
110.0								14.3	12.0	14.4	13.3	12.1	12.2			
120.0									12.4	11.5	10.7	9.5	9.5			
130.0										10.2	9.3	8.4	7.3	7.3		
140.0											7.4	6.6	5.4	5.4		
150.0												5.0	4.1	4.1		

Rated lifting capacities shown on fully extended outriggers do not exceed 85% of the tipping loads.

No.	Date	Description
Revisions		



Contractor: Luck Bros., Inc. 73 Trade Rd. Plattsburgh, NY 12901	Erecting Contractor Luck Bros., Inc. 73 Trade Rd. Plattsburgh, NY 12901
Project: Warren BRF 013-4(32)	PBA Fabricator SD IRELAND PRECAST 193 INDUSTRIAL AVENUE WILLISTON, VT 05495
BRIDGE NO. 166	Designed by: DFB Date: 04/12/2014
	Drawn by: DFB Scale: AS NOTED
	Checked by: TL Drawing No.: EP-2
Prefabricated Abutment Unit Erection	